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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,708	01/17/2002	Yukio Miyaki	Q67843	1272

7590 09/27/2005

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EXAMINER	
CREPEAU, JONATHAN	
ART UNIT	**PAPER NUMBER**
1746	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/046,708	MIYAKI ET AL.	
	Examiner	Art Unit	
	Jonathan S. Crepeau	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/15/05*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33,35,39-53,56 and 57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *33,35,39-53,56 and 57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 15, 2005 has been entered.

This office action addresses claims 33, 35, 39-53, 56, and newly added claim 57. Although the claims have been amended, they remain rejected over Kawakami et al. in view of Idota. This action is non-final.

Claim Objections

2. Claim 52 is objected to because of the following informalities: the claim recites "1 pm" instead of "1 μm", which appears to be a typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. Claims 33, 35, 39-53, 56, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al (U.S. Pat. 5,824,434) in view of Idota et al (U.S. Pat. 5,618,640).

Regarding claim 33, Kawakami et al. teach a nonaqueous secondary battery comprising a positive electrode and a negative electrode both containing a material capable of reversibly intercalating and deintercalating lithium in column 3, line 65. A nonaqueous electrolyte containing a lithium salt is disclosed in column 46, line 17. Regarding claim 56, the electrolyte solvent is a carbonic ester (i.e., propylene carbonate) (see col. 46, line 17). Regarding claim 33, the positive electrode comprises a protective layer (see col. 30, line 23). The layer may comprise any one of organic resin, fluororesin, silicon resin, titanium resin, polyolefin, inorganic oxide, nitride, carbide, and halide (see col. 30, line 28). As disclosed in column 36, line 33, the layer may comprise "colloid particles" of inorganic oxide. The colloid particles may also be present in conjunction with an organic polymer (see col. 36, lines 35-40). As such, both organic and inorganic materials appear to be present in the layer simultaneously. Further, the reference fairly suggests that the materials are in the form of "fine particles" as recited in claim 33. Regarding claims 39 and 49-51, the layer may comprise a halide salt such as lithium fluoride or magnesium fluoride (see col. 38, line 3). The disclosure at column 30, line 28 of the possible species contained in the layer anticipates the subject matter of instant claims 40-43 (the particles or the layer has/have electrical conductivity, or substantially no electrical conductivity). Regarding claims 44-46, the inorganic oxide may be silica, alumina, zirconia, or magnesia (see col. 36, line 23). Regarding claims 47 and 48, the layer may comprise carbon (diamond) (see col. 38, line 12). Regarding claim 57, the polymer contained in the layer may be polyethylene (see col. 36, line 52). Regarding claim 35, the negative electrode may also comprise a protective layer (see col. 27, lines 35-44).

Kawakami et al. do not expressly teach that the negative active material is a composite tin oxide, as recited in claim 33, that the thickness of the protective layer is between 1-40 microns, as recited in claim 52, that the layer comprises conductive particles in an amount of 2.5-96 % by weight, as recited in claim 53, or that the protective layer comprises two binders in combination with an alkali metal or alkaline earth metal salt, as recited in claim 39.

However, it is submitted that the artisan would find it obvious to use at least two binders in combination with an alkali metal or alkaline earth metal salt in the protective layer. The reference discloses a plurality of organic resin species useful in the protective layer in column 30, line 24. The courts have held that it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose (*In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980)). Additionally, any of the above-noted organic resins would function as a binder when used in combination with the metal fluoride. With regard to the weight percentage of conductive particles in the protective layer, the claimed range of 2.5-96 % is not considered to distinguish over the reference. Such weight percentage may be optimized to affect the performance characteristics of the electrode. With regard to the thickness of the protective layer, the reference teaches that the negative protective layer has a thickness of preferably 10 micrometers or less (see col. 28, line 19). It would be obvious to apply this teaching to the positive protective layer, therefore rendering obvious the range recited in claim 52.

Further, the Idota et al. reference teaches a composite tin oxide negative electrode material in column 4, line 43-column 7, line 26.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because Idota et al. provide motivation for the artisan to use their negative electrode material in the battery of Kawakami et al. Idota's teaching of a nonaqueous secondary battery using the electrode material having "excellent charge and discharge cycle characteristics, a high discharge potential, a high capacity and high safety" (col. 7, line 22) would motivate the artisan to use the electrode material in the battery of Kawakami. Therefore, this limitation is rendered obvious by the disclosure of Idota.

Response to Arguments

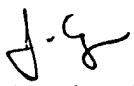
4. Applicant's arguments filed June 15, 2005 have been fully considered but they are not persuasive. Applicant states that "Kawakami does not appear to disclose or suggest a positive electrode that has a protective layer comprising both organic and inorganic particles." However, it is submitted that the Kawakami references fairly suggests this subject matter for the reasons set forth in the rejection above. As such, the claims remain rejected over Kawakami and Idota herein.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached at (571) 272-1414. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Primary Examiner
Art Unit 1746
September 22, 2005